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SUPPLEMENTAL TECHNICAL INSTRUCTIONS

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79-8-C	12/10/79

National Mapping Division

SUBJECT

State metric contour interval plans

BACKGROUND

State metric contour interval plans were prepared in accordance with contour intervals contained in the November 1976 USGS Statement on the Preparation of Metric Base Maps for the National Mapping Program. Since that time, the sequence of approved metric intervals has been expanded to provide the additional flexibility needed to assign appropriate contour intervals to metric maps. It is, therefore, necessary for Mapping Centers to review their State metric contour interval plans and, where appropriate, prepare new plans to reflect these changes.

INSTRUCTIONS

State metric contour interval plans are prepared using intervals selected from the sequence of contour intervals contained in Supplemental Topographic Instructions 79-4-C (Revised), Metric Contour Intervals, dated December 10, 1979. Approved basic intervals appropriate for large scale maps are 1, 1.5, 2, 3, 4, 5, 6, 10, 15, 20, and in exceptional cases 30 meters. The basic interval selected for each map is that which most clearly portrays the predominant terrain of the area. Additional key factors in the selection of contour intervals are:

1. Metric contour intervals should provide as much data as that provided by foot intervals. Generally, metric maps should provide as much contour density as that shown on previously published foot-interval maps, assuming that the previous contour interval was appropriate for the area. In unmapped areas, as much contour density is provided as that called for on State plans for foot-interval maps. The following table, derived from existing State foot-interval plans, shows the predominant foot-intervals, their metric equivalents, percent of the conterminous U.S. Covered by each interval, and suggested replacement metric intervals.

Foot Interval	Metric Equivalent	Percentage of U.S. Coverage	Metric Interval
5 ft	1.52m	12.5%	*1 or 1.5m
10 ft	3.05m	39%	2 or 3m
20 ft	6.10m	31%	4, 5, or 6m
40 ft	12.20m	17%	10
80 ft	24.38m	0.5%	15, 20, or *30m

*A one-meter basic interval is selected only when special requirements warrant its use and it is apparent that the derived benefits will outweigh the costs. A 30-meter interval is selected only when it is evident that planned or existing 80-foot contours are too dense.

2. Plan for large blocks. A consistent interval is selected for as large a conterminous block as possible, and checkerboarding is avoided.

3. Consider contour interval requirements for derived maps. To the extent possible, metric contour intervals on large-scale maps should be compatible throughout a county and/or intermediate- and small-scale quadrangle areas. The same, or submultiples of the prospective interval for the derived map are maintained.

4. Plan for 7.5x15-minute units. Contour intervals should be planned for full 7.5x15-minute units in States where 1:25,000-scale metric maps are produced. This requirement is also applicable to metric maps prepared at a scale of 1:24,000 on a 7.5-minute format. Such maps may, sometime in the future, be scale converted to 1:25,000-scale and formatted as 7.5x15-minute quadrangles.

5. Minimize the use of dual or multiple intervals. The use of dual or multiple intervals is avoided except for extraordinary cases of extreme relief variation. Supplementary contours are amply used in accordance with Supplemental Topographic Instructions 79-4-C (Revised).

6. Coordinate plans with State Cooperators or State Mapping Advisory Committees. Appropriate State officials are apprised of the established range of metric contour intervals and the recommended State contour interval plan.

7. Coordinate plans with adjacent Mapping Centers. Plans are coordinated with adjacent Mapping Centers to ensure consistent treatment of similar topography and to effect joins between border States.

8. Submit plans to the Office of Research and Technical Standards. Plans are submitted by the Mapping Center to R&TS for review and approval, and for subsequent development of new plans for intermediate scale maps.

APPLIES TO

Metric contour interval plans for all States

ISSUED TO

EMC, MCMC, RMMC, WMC

APPROVED BY

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Cc: Topo Files, RT (2), RT-C (2), PD, TIO (2)
RT-A, RT-F, RT-P